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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,959	01/29/2002	Alistair Neil Coles	1509-269	3543

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EXAMINER

SELLERS, DANIEL R

ART UNIT PAPER NUMBER

2644

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,959

Applicant(s)

COLES ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the quality of the drawings are not sufficient for reproduction and legends should be used where appropriate (see 37 CFR 1.84). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1" and "7" have both been used to designate a user device in figures 1a, 1b, and 1c. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "29" and "2" have both been used to designate a codec

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in figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both an audio source and a codec. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "47" and "49" have been used to designate both codecs in

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figure 1c and a cable and position sensor, respectively, in figures 4a and 4b. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities: On page 11, line 26, the codecs 29, 31, and 33, mentioned in the previous paragraph, are mislabeled codecs 19, 21, and 23.

Appropriate correction is required.

7. The disclosure is objected to because of the following informalities: Pages 1-17 do not have the sections titled properly according to 37 CFR 1.77(c).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 5-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak, U.S. Patent No. 6,647,119, Brandenburg et al., U.S. Patent No. 6,115,688 (hereinafter Brandenburg), and the article by King et al., "The Impact of Signal Bandwidth on Auditory Localization: Implications for the Design of Three-Dimensional Audio Displays" (hereinafter King).

10. Regarding claim 1, see Slezak column 7, line 62 – column 8, line 17,

An audio system comprising:

an audio source;

a playing terminal connected to the audio source by means of a data link; and

an audio transducer connected to the playing terminal,

wherein a plurality of audio components are provided at the audio source, each audio component comprising (a) audio data relating to an audible sound or track, and (b) positional data, relative to the audio transducer means, at which each audible sound or track is to be perceived, the audio source being arranged to (i) generate, from the plurality of audio components, a first set of spatially processed data for transmission over the data link at a first bit rate, and (ii) individually transmit each of the audio components at a bit-rate which is lower than that of the first bit rate, the playing terminal being arranged to receive the first set of spatially processed data and each individual audio component, at their respective bit-rates, to generate a second set of spatially processed data using the individual audio components, and to output the first and second sets of spatially processed data by means of the audio transducer.

Slezak teaches an audio source, a terminal, audio transducers, and audio components comprising audible sounds or tracks and positional data. Slezak teaches that the playing terminal generates a set of spatialized processed audio data (Col. 4, line 39 – Col. 5, line 12) and further teaches that distributed computing can split tasks across local and remote computers (Col. 2, lines 51-57). It is inherent that a set of spatialized

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audio data can be created remotely from the playing terminal in place of creating it on the server side to reduce demands on the server. Slezak however does not teach two different bit-rates for transmission of the audio components. Brandenburg teaches a process for scalable coding of audio signals, wherein a low-quality signal is sent along with an additional signal to be added to the low-quality signal to achieve a high-quality signal (Col. 1, line 56 – Col. 2, line 31). King teaches that bandwidth limiting (simulated by high and low pass filtering) effects the perception of three-dimensional audio (p. 294, Discussion). In light of King's teachings, the process of scalable coding can be seen to be equivalent to sending the low-pass signal as a low-quality signal and additional information, such as the information filtered out by the low-pass filter, to be added together to form the high-quality signal. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak, Brandenburg, and King for the purpose of utilizing network bandwidth efficiently.

11. Regarding claim 2, the further limitation of claim 1, see Slezak

... further comprising a user control device connected to the playing terminal and arranged to enable user-selection of one the audible sounds or tracks, corresponding to one of the audio components outputted from the audio transducer means, as a focus sound or track. (Col. 10, lines 1-15 and Fig. 10, item 294)

Slezak teaches the use of a mouse and the ability to select an audible sound as a focus sound.

12. Regarding claim 5, the further limitation of claim 2, see the preceding argument with respect to claim 2. A mouse is a user control device that comprises at least one button.

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13. Regarding claim 6, the further limitation of claim 2, see the preceding argument with respect to claim 2. Slezak, Brandenburg, and King teach the features of claim 2, but they do not teach voice recognition. *Official Notice* is taken, for it is well known in that voice recognition is a useful in gathering user input. Voice dictation software has been on sale in the United States prior to filing.

14. Regarding claim 7, the further limitation of claim 1, see Slezak

... wherein the data link is a wireless data link (Col. 3, lines 53-55).

Slezak teaches a wireless data link.

15. Regarding claim 8, the further limitation of claim 7, see Slezak

... wherein the wireless data link is established over a mobile telephone connection. (Col. 4, lines 1-7)

Slezak teaches the use of a wireless network and the use of modems to connect to a network, such as the Internet. It would have been obvious for one of ordinary skill in the art to combine these ideas and implement a wireless or cellular modem, which are well known devices in computer communications.

16. Regarding claim 9, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches that the audio source is a network-based device (Col. 3, lines 55-61 and Col. 4, lines 43-47).

17. Regarding claims 10-12, see the preceding argument with respect to claim 1. The combination of Slezak, Brandenburg, and King teaches these features.

18. Regarding claim 13, the further limitation of claim 12, see the preceding argument with respect to claim 2. The combination teaches a user control device.

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19. Regarding claim 16, the further limitation of claim 13, see the preceding argument with respect to claim 5. The combination teaches a user control device with a button.

20. Regarding claim 17, the further limitation of claim 13, see the preceding argument with respect to claim 6. The office takes official notice that voice recognition is a well-known user input interface.

21. Regarding claim 18, the further limitation of claim 12, see the preceding argument with respect to claim 7. The combination teaches a wireless link.

22. Regarding claim 19, the further limitation of claim 18, see the preceding argument with respect to claim 8. The combination can obviously be modified to use a wireless modem in lieu of a modem using a landline.

23. Regarding claim 20, see the preceding argument with respect to claim 1. The combination teaches a computer as the primary user appliance, and therefore teaches this method on a computer readable medium.

24. Claims 3, 4, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak, Brandendurg, and King as applied to claim 1 above, and further in view of the paper authored by Kobayashi et al., "Dynamic Soundscape: mapping time to space for Audio Browsing" (hereinafter Kobayashi).

25. Regarding claim 3, the further limitation of claim 2, see Kobayashi

... wherein the user control device comprises a position sensor for being mounted on a body part of a user, the position sensor being arranged to cause selection of an audible sound or track as the focus sound or track by means of generating position data indicating the relative position of the user's body part, the playing device thereafter comparing the position data with the positional data for each of the

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audio components so as to determine the audible sound or track to which the user's body part is directed.
(p. 13, head interface paragraph)

The combination of Slezak, Brandenburg, and King teach the features of the parent claims, however they do not teach the use of head tracking or using a position sensor on a body part for user input. Kobayashi teaches an audio browser, and in one feature is the ability to track the users head movement for the purpose of bringing one of a plurality of sounds into focus within a three-dimensional soundscape. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak, Brandenburg, King, and Kobayashi for the purpose of using a more natural user interface.

26. Regarding claim 4, the further limitation of claim 3, see the preceding argument with respect to claim 3. In the combination, Kobayashi teaches the use of a head-mountable sensor.

27. Regarding claim 14, the further limitation of claim 13, see the preceding argument with respect to claims 3 and 13. Kobayashi teaches the feature of head tracking to define user input.

28. Regarding claim 15, the further limitation of claim 14, see the preceding argument with respect to claim 14. Kobayashi teaches a head-mountable sensor.

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moorer, U.S. Pat. No. 6,072,878,

Yamauchi, U.S. Pat. No. 6,122,338, and
Moorer, U.S. Pat. No. 6,904,152.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS

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XU MEI
PRIMARY EXAMINER